

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Grzegorz J. Kusinski and
Gareth Thomas

Application No.: 10/645,833

Filed: August 20, 2003

For: COLD-WORKED STEELS
WITH PACKET-LATH
MARTENSITE/AUSTENITE
MICROSTRUCTURE

Confirmation No.: 7656

Examiner: Yee, Deborah

Art Unit: 1742

RESPONSE: REQUEST
FOR RECONSIDERATION
ACCOMPANYING
REQUEST FOR
CONTINUED
EXAMINATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Final Rejection dated March 23, 2007 and the Advisory Action dated August 10, 2007, Applicants wish to submit the following comments for reconsideration and reexamination of this Application, together with the accompanying Request for Continued Examination.

In addition, Applicants wish to reiterate the comments made in the amendment filed August 3, 2007 in response to the Final Rejection. For the sake of brevity, that amendment is attached hereto.

Applicants also wish to express appreciation for the examiner's detailed Advisory Action, which makes clearer to Applicants her understanding of the prior art and of the claimed invention.

In the Advisory Action, the examiner comments that although the Masumoto et al. process begins its cooling step from the molten phase, as opposed to the solid phase which is the starting point in Applicants' process, she considers that "the alloy is still subjected to cooling through the austenitic phase temperature and solidifies as it cools

followed by further cooling to the martensitic phase temperature" and that the prior art process involves "cooling directly from the molten state to reach the austenitization temperature followed by cooling".

In the previous response, Applicants pointed out that the Masumoto et al. process involves rapid quenching. In fact, that is an understatement. As stated at col. 7 lines 29-36, the two types of rapid quenching processes described in the reference have cooling times of 10,000 - 100,000 degrees/second and 100,000 - 1,000,000 degrees/second respectively. With such extremely rapid quenching, there is no time for the Masumoto et al. steels to solidify as they cool or to cool in two stages, as suggested by the examiner. The steels go from molten to solid form in a time of from tenths of a second to hundred-thousandths of a second.

The two processes simply are not the same, and, in addition, do not produce the same type of products.

The claimed process begins with a carbon steel alloy and produces a carbon steel alloy having a microstructure consisting of laths of martensite alternating with from about 0.5% to about 15% by volume of films of retained austenite. The Masumoto et al. products have martensite laths and austenite, with dispersed precipitates. There is no disclosure of laths of martensite alternating with films of austenite, and due to the very different processes, the products are not the same.

Finally, Applicants submit that while the examiner considers the Masumoto et al. reference to relate generally to steels having a certain range of components, it would be considered by those skilled in the art to relate to stainless steels, and not to carbon steels. The examiner's reliance on ranges of components in claim 14 to show similarity of the steels is misplaced since that claim calls for a carbon steel "consisting of" the stated ingredients, which do not include nickel, called for in all of Masumoto's examples, and call for a carbon content which, in all but one of the Masumoto et al. examples, is substantially higher than the range in claim 14.

Again, the two products are different types of steels.

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Applicants respectfully request that rejections for obviousness over Masumoto et al. be withdrawn.

Applicants again submit that the claims also are not obvious over Thomas, which does not disclose or render obvious cold working without intermediate heat treatment.

For the same reasons, Applicants submit that Masumoto et al. and Thomas are not combinable because they relate to two very different types of processes and products, and respectfully request that the double patenting rejection also be withdrawn.

CONCLUSION

In view of the foregoing, Applicants submit that all claims in this Application are allowable and request a Notice to that effect.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned.

Respectfully submitted,

/Joel G. Ackerman/

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